

IN THE CLAIMS:

Please cancel claims 15 and 16, without prejudice. The pending claims are as follows:

Claims 1-17 (Cancelled)

18. (Original) Method of maintaining the quantity of liquid below a predetermined limit in a product discharge tank of a fluidized bed olefin polymerization process, which process includes a fluid recycle to the bottom of said fluidized bed and a product discharge conduit above said bottom, comprising continuously or intermittently monitoring the amount of liquid in said product discharge tank, and continuously or intermittently diverting liquid from said fluidized recycle to a point higher than said product discharge conduit in said bed in amounts effective for maintaining said quantity of liquid below said predetermined limit in said product discharge tank.

19. (Original) Method of claim 18 wherein said monitoring of the amount of liquid in said product discharge tank is conducted by monitoring the pressure in said product discharge tank and correlating said pressure to a liquid amount.

20. (Original) Method of claim 18 wherein said fluid recycle comprises at least 25% condensing.

21. (Original) Method of claim 18 wherein said olefin comprises ethylene.

22. (Original) Method of claim 18 wherein said olefin comprises propylene.

23. (Original) Method of claim 18 wherein said fluidized bed olefin polymerization process employs two product discharge tanks.

24. (Original) Method of claim 23 including the step of pressure equalization between said two product discharge tanks when neither of said product discharge tanks is receiving product.

25. (Original) Method of claim 18 wherein said amount of liquid in said product discharge tank is monitored by inference from at least one pressure in said product discharge tank.

26. (Original) Method of conserving unreacted monomer which would otherwise be removed, at a product withdrawal level, with particulate product from a fluidized bed polymerization reactor having a distribution plate for incoming fluid, said reactor being operated in the condensing mode, wherein fluid is recycled from said reactor to remove the heat of reaction by condensing a selected percentage of said fluid to obtain a liquid, comprising injecting a portion of said liquid above said product withdrawal level, said portion being correlated to said percentage by a model of said process.

27. (Original) Method of claim 26 wherein said particulate product is removed through conduits from said reactor at said product withdrawal level to two product discharge tanks A and B at least partly by differences in pressure between said reactor and said product discharge tanks A and B, including the steps of alternating product discharge between product discharge tanks A and B, alternately substantially emptying particulate product from said product discharge tanks A and B, and alternately substantially equalizing pressures between product discharge tanks A and B.

28. (Original) Method of claim 27 wherein said portion of liquid is modified by a factor representing liquid in at least one of said tanks A and B.

29. (Original) Method of claim 27 wherein said portion of liquid is modified by a factor representing pressure in at least one of said tanks A and B.

30. (Original) Method of claim 29 wherein said factor is derived from a model of the operation of said reactor.

31. (Original) Method of claim 29 wherein said factor is derived from monitored pressure in said at least one of said tanks A and B.

32. (Original) Method of increasing the product removal capability of a fluidized bed olefin polymerization reactor operating in the condensing mode and

including a particulate product takeoff conduit substantially above the bottom of said fluidized bed, which particulate product takeoff conduit leads to a product discharge tank, comprising manipulating the ratio of liquid recycled to a point below said fluidized bed to that injected above said product takeoff conduit according to a model of said reactor to maintain the pressure in said discharge tank at at least one desired level throughout a product discharge, whereby the product discharge cycle is maintained within desired time limits and said product removal capability is not substantially constrained by said desired time limits.

33. (Original) Method of claim 32 wherein said polymerization reactor includes two product takeoff conduits, each leading to a product discharge tank.

34. (Original) Method of claim 33 including equalizing pressures in said product discharge tanks when one of said product discharge tanks contains particulate product and the other of said product discharge tanks is substantially empty of particulate product.

35. (Original) Method of claim 33 wherein said polymerization reactor includes at least one additional product takeoff conduit leading to at least one additional product discharge tank.

36. (Original) Method of optimizing product removal capacity of an olefin polymerization reactor operating as a fluidized bed in the condensing mode and having at least two product discharge tanks, while also optimizing raw material conservation during product removal comprising manipulating the ratio of liquid recycled to the bottom of said fluidized bed to liquid injected above a point of product removal from said fluidized bed as a function of at least one pressure monitored in said discharge tanks, and intermittently venting one discharge tank to another discharge tank, whereby optimum efficiency is achieved balancing the rate of product removal and the conservation of raw material.

37. (Original) Method of claim 36 wherein said raw material comprises ethylene.

38. (Original) Method of claim 36 wherein said olefin comprises propylene.

39. (Original) Method of controlling recycle split of a polymerization reactor operating in the condensing mode, at at least 25 percent condensing, comprising controlling said recycle split as a function of liquid in at least one product discharge tank.